Curriculum Vitae

Jialin Lin

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Education

B.S., Physics, 1990, Tsinghua University, Beijing, P. R. China.
M.S., Nuclear Physics, 1993, Beijing University, Beijing, P. R. China.
Ph.D., Atmospheric Sciences, 2001, State University of New York at Stony Brook.
Postdoc, 2001-now, NOAA-CIRES Climate Diagnostics Center, Boulder, CO.

Professional experience

1993-1994 State University of New York at Stony Brook, Teaching Assistant.
1994-2001 State University of New York at Stony Brook, Research Assistant.
2001-Now NOAA-CIRES Climate Diagnostics Center, Research Associate.

Professional memberships and services

Member, American Meteorological Society.

Max A. Eaton student prize committee, AMS 25th Conference on Hurricanes and Tropical Meteorology, 2002.

Reviewer for *Journal of the Atmospheric Sciences*, *Monthly Weather Review*, *Journal of Applied Meteorology*, *Quarterly Journal of the Royal Meteorological Society*, and *Journal of the Meteorological Society of Japan*.

Publications

Refereed

Zhang, M. H., and J. L. Lin, 1997: Constrained variational analysis of sounding data based on column-integrated budgets of mass, heat, moisture, and momentum: Approach and application to ARM measurements. *J. Atmos. Sci.*, **54**, 1503-1524.

Zhang, M. H., J. L. Lin, R. T. Cederwall, J. J. Yio, S. C. Xie, 2001: Objective Analysis of ARM IOP Data: Method and Sensitivity. *Mon. Wea. Rev.*, **129**, 295-311.

Lin, J. L., B. E. Mapes, M. H. Zhang and M. Newman, 2003: Stratiform precipitation, vertical heating profiles, and the Madden-Julian Oscillation. *J. Atmos. Sci.*, **61**, 296-309.

Lin, J. L., and B. E. Mapes, 2003: Radiation budget of the tropical intraseasonal oscillation. *J. Atmos. Sci.*, in press. Available at http://www.cdc.noaa.gov/~jlin

Lin, J. L., M. H. Zhang, and B. E. Mapes, 2004: Zonal momentum budget of the Madden-Julian Oscillation: The source and strength of mechanical damping. *J. Atmos. Sci.*, submitted. Available at http://www.cdc.noaa.gov/~jlin

Mapes, B.E., and J. L. Lin, 2004: Wind divergence - rainfall relationships in 9919 hours of tropical single Doppler radar data. *Mon. Wea. Rev.*, submitted.

Lin, J. L., B. E. Mapes, T. Qian, and R. D. Cess, 2004: Cloud-radiation feedback in the tropical intraseasonal oscillation. *J. Climate*, to be submitted.

Unrefereed

Lin, J. L., and M. H. Zhang, 1997: Vertical structure of the Madden-Julian Oscillation events during TOGA COARE. Proc. 22nd Conference on Hurricanes and Tropical Meteorology, Amer. Met. Soc., 19-23 May 1997, Ft. Collins, CO, 602-604.

Zhang, M. H., and J. L. Lin, 1999: Synthesizing TOGA COARE measurements in the atmosphere, at the surface, and at TOA. COARE-98. Proc. Conf. on the TOGA Coupled Ocean-Atmosphere Response Experiment (COARE). Boulder, CO, 7-14 July 1998. WMO/TD 940, 309-310.

Lin, J. L., M. H. Zhang, T. Qian, R. D. Cess, B. E. Mapes, and M. Newman, 2002: Wave-Convection-Radiation feedback in the Madden-Julian Oscillation. Proc. 25th Conference on Hurricanes and Tropical Meteorology, Amer. Met. Soc., 29 April-3 May 2002, San Diego, CA, 589-590.

Lin, J. L., M. H. Zhang, and B. E. Mapes, 2002: Does the tropical atmosphere

support large-scale radiative-convective overturning? Proc. 25th Conference on Hurricanes and Tropical Meteorology, Amer. Met. Soc., 29 April-3 May 2002, San Diego, CA, 82-83.

Mapes, B. E. and J. L. Lin, 2002: Relationships between radar echo parameters and divergence profiles in tropical convection. TRMM International Science Conference, 22-26 July 2002, Honolulu, Hawaii.

Lin, J. L., B. E. Mapes, and M. H. Zhang, 2002: Contribution of stratiform precipitation to vertical heating profile in the Madden-Julian Oscillation. TRMM International Science Conference, 22-26 July 2002, Honolulu, Hawaii.

Zuidema, P., and J. L. Lin, 2003: On the vertical structure of the upper tropical troposphere as observed during EPIC by cloud radar and soundings. U.S. CLIVAR Pan American Workshop, 16-18 September 2003, Boulder, CO.

Lin, J. L., and B. E. Mapes, 2003: Statistical studies of single-Doppler datasets from several tropical convective regions and seasons. Proc. 31st Conference on Radar Meteorology, Amer. Met. Soc., 5-12 August 2003, Seattle, WA, 268-269.

Software and data products

Under the instruction of my Ph.D advisor Dr. Minghua Zhang, I developed the constrained variational analysis method for calculating sounding array mass, heat, moisture and momentum budgets (Zhang and Lin 1997, Zhang et al. 2001). I also applied the method to the TOGA COARE and ARM datasets. The data products have been widely used as forcing and evaluation data for the cloud-resolving models (CRM) and single column models (SCM), for example, in ARM Single Column Model Intercomparison Project and GEWEX Cloud System Study WG4 Model Intercomparison Projects. The variational analysis software I wrote is being used by researchers at Lawrence Livermore National Laboratory to routinely process the ARM data for later IOPs. Please see:
http://www.arm.gov/docs/scm/variational/
http://www.arm.gov/docs/scm/scmic3/index.html

Models used in previous studies

1. CCM3 Column Radiation Model.
2. A linear baroclinic model based on primitive equations.
3. CAM2.